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ABSTRACT

Electronic learning, also known as e-learning, is generally defined as instruction and learning experiences that are delivered via electronic technology such as the Internet, audiotape and videotape, satellite broadcast, interactive television, and CD-ROM. Web-based learning, computer-based learning, and virtual classrooms are some of the processes and applications used to distribute e-learning. E-learning is a growth industry in both education and business and industry. Although e-learning has the capacity to provide greater access to resources and people, it also raises a number of questions. The overall quality of e-learning has been an issue. Surveys of e-learners have established that much e-learning fails to live up to learner expectations. In an effort to keep costs down, many e-learning providers have failed to capitalize on available technology such as streaming audio and video. In the "rush to e-learning," the emphasis has been largely on the "e" and not on the "learning." Knowledge about how adults learn has been largely ignored. Although greater numbers of individuals have more learning opportunities because of the growth of e-learning, questions about who it benefits and who it leaves out still remain. (A 20-item annotated bibliography and list of 4 World Wide Web sites constitute approximately 80% of this document.) (MN)

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Susan Imel

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by Susan Imel

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E-Learning

Electronic learning, also known as e-learning, is generally defined as instruction and learning experiences that are delivered via electronic technology such as the Internet, audio- and videotape, satellite broadcast, interactive TV, and CD-ROM. Web-based learning, computer-based learning, and virtual classrooms are some of the processes and applications used to distribute e-learning (Commission on Technology and Adult Learning 2001; *E-learning Glossary*, online). E-learning is a growth industry in both education and business and industry. In 2000, corporations spent approximately $1.2 billion on e-learning, but this amount is expected to increase to as much as $23 billion by 2005 (Commission on Technology and Adult Learning 2002; Zenger and Uehlein 2002). E-learning in postsecondary education is also experiencing rapid growth with 84% of two- and four-year colleges expected to offer distance education courses in 2002, compared to 58% in 1998 (Commission on Technology and Adult Learning 2001).

E-learning has the capacity to provide greater access to resources and people but it also raises a number of questions (Tait 2000). The overall quality of e-learning experiences has been an issue (Greenagel 2002; Kilby 2001; Massy 2002; Williams 2002). Surveys (Massy 2002; Williams 2002) of e-learners have revealed that much e-learning fails to live up to learner expectations. Many providers of e-learning have failed to capitalize on available technology such as streaming audio and video and, in an effort to keep costs down, have continued to use programs and packages based on the model of programmed instruction (Greenagel 2002; Kilby 2001).

In the "rush to e-learning, the emphasis has been largely on the *e* and not the *learning*," (Zenger and Uehlein 2002, p. 60). Knowledge about how adults learn has been largely ignored (Greenagel 2002; Williams 2002). For example, many e-learning offerings overlook the fact that learning has social aspects, and they are not designed to develop communities of learners (Hung and Chen 2001; Hung and Nichani 2001; Pang and Hung 2001).

Greater numbers of individuals have access to more learning opportunities because of the growth of e-learning. Still, questions about who benefits and who is left out remain (Edelson and Pittman 2001; O Fathaigh 2001; Tait 2000). Until questions related to quality, pedagogy, technology, and access are addressed, it is probably "premature to embrace [e-learning] uncritically" (Tait 2000, p. 22).

Resources

Bonk, C. J., and Essex, C. "Stating the State of E-learning: Surveys in College and Corporate Training Settings." In ***Distance Learning 2001: Proceedings of the 17th Annual Conference on Distance Teaching and Learning***. Madison: University of Wisconsin, 2001. (ED 462 621)

Reports on common obstacles, supports, experiences, and tools used by early adopters of the Web as a teaching resource. Notes that, although many faculty members and trainers are adopting web-based teaching strategies, a need exists for online learning leadership and exemplary models or frameworks for web-based instruction.

Commission on Technology and Adult Learning. ***A Vision of E-Learning for America's Workforce***. Alexandria, VA: American Society for Training and Development; Washington, DC: National Governors' Association, 2001. (ED 455 432) http://www.nga.org/cda/files/ELEARNINGREPORT.pdf

Presents a vision for a future in which technology allows learning to become a continuous process of inquiry and improvement that keeps pace with the speed of change in business in society. Includes 13 recommendations organized under quality, assessment and certification, and access.

Coné, J. W., and Robinson, D. G. "The Power of E-Performance." *T+D* 55, no. 8 (August 2001): 32-41.

Asserts that much of e-learning is poorly designed and does not focus on the entire work environment system. Proposes a continuum of e-learning from least to most integrated to the job.

E-Learning and Training in Europe: A Survey into the Use of e-Learning in Training and Professional Development in the European Union. Thessaloniki, Greece: European Centre for the Development of Vocational Training, 2001.

The extent of e-learning supported by information and communication technologies (ICT) methods in vocational education and training and the European Union was investigated in this study conducted over the Internet. Just over 80% of the 653 respondents were suppliers or users of e-learning. E-learning for training varied with subject matter with ICT being the highest and sales and marketing the lowest, but still significant.

Edelson, P. J., and Pittman, V. V. "E-Learning in the United States: New Directions and Opportunities for University Continuing Education." ***Global E-Journal of Open, Flexible & Distance Education*** 1, no. (2001): 71-83. http://www.ignou.ac.in/e-journal/contents/edelson.htm

Addresses recent developments in e-learning in the United States with special attention to its historical antecedents in correspondence education. Offers predictions for the future and considers implications for continuing education professionals and applications of new technology to adult education.

Greenagel, F. L. ***The Illusion of e-Learning: Why We Are Missing Out on the Promise of Technology***. Phoenix, AZ: League for Innovation in the Community College, 2002. http://www.league.org/publication/whitepapers/0802.html

E-learning has not kept pace with the development of complex delivery platforms. Most e-learning experiences are still mired in technology based on teaching machines of the early 1950s. E-learning has not taken advantage of collaborative tools and technology has not been matched with adult learning styles.

Howell, D., and Stinson, B. "Blending Online Strategies into Traditional Staff Development Training." In ***Distance Learning 2001: Proceedings of the 17th Annual Conference on Distance Teaching and Learning***. Madison: University of Wisconsin, 2001. (ED 462 621)

Professional development can play a role in helping teachers integrate technology into their instructional practices by exposing them to recent technological advances and tools for learning. Hybrid models that integrate online and onsite (face-to-face) experiences may be more effective than either model used individually.

Hung, D. W. L., and Chen, D.-T. "Situated Cognition, Vygotskian Thought and Learning from the Communities of Practice Perspective: Implications for the Design of Web-Based E-Learning." ***Educational Media International*** 38, no. 1 (March 2001): 3-12.

Current web-based examples are used to illustrate e-learning design principles. The principles are situatedness, commonality, interdependency, and infrastructure. The infrastructure dimension suggests that rules and processes relevant to face-to-face communities may have to be changed drastically in the context of web-based e-learning communities.

Hung, D., and Nichani, M. "Constructivism and e-Learning: Balancing between the Individual and Social Levels of Cognition." *Educational Technology* 41, no. 2 (March-April 2001): 40-44.

Formulates a working constructivist framework for e-learning that suggests e-learning environments should be situated in both the social community of practice and in the individual minds of students.

Kilby, T. "The Direction of Web-Based Training: A Practitioner's View." *Learning Organization* 8, no. 5 (2001): 194-199.

As online learning has evolved, web-based training has had achievements and disappointments. Best practices include use-centered design, knowledge object structure, usability engineering, and formal evaluation.

Massy, J. *Quality and eLearning in Europe. Summary Report 2002*. Reading, UK: Bizmedia, 2002. http://www.trainingvillage.gr/etv

In a recent European web-based survey on quality and e-learning, over 60% of all respondents rated the overall quality of e-learning negatively—as either "fair" or "poor."

Mauger, S. "E-learning 'Is About People not Technology.'" *Adults Learning* 13, no. 7 (March 2002): 9-11.

E-learning has potential benefits but it requires a "smart" environment: support staff and resources, diagnostic systems to measure electronic functionality, and a systemwide approach that goes beyond mere delivery of content.

Morgan, G. "Thirteen 'Must Ask' Questions about E-Learning Products and Services." *Learning Organization* 8, no. 5 (2001): 203-210.

Features 13 questions that need to be asked in assessing the strengths, weaknesses, and applicability of different e-learning offerings.

O Fathaigh, M. "E-Learning and Access: Some Issues and Implications." Paper presented at the "Training for the Future," Irish Institute of Training and Development National Conference, Dublin, Ireland, March 2, 2001. http://www.bath.ac.uk/iohm/fathaight.rtf

Access issues, including socio-personal and equity issues, related to e-learning are examined. States that educational principles must govern the future use and role of e-learning and appropriate strategies to enhance and promote access to e-learning, especially for marginalized groups, should be developed.

Oblinger, D. G.; Barone, C. A.; and Hawkins, B. L. *Distributed Education and Its Challenges: An Overview*. Washington, DC: American Council on Education, Center for Policy Analysis; EDUCAUSE, 2001. http://www.acenet.edu/bookstore/pdf/distributed-learning/distributed-learning-01.pdf

Significant issues associated with distributed education or e-learning are described in this paper, including challenging assumptions about e-learning, student learning, strategic goals, intended audiences, market size and growth of distance education, governance and organization, partnerships, quality, policies, barriers, and leadership challenges.

Pang, P. M. N., and Hung, D. W. L. "Activity Theory as a Framework for Analyzing CBT and E-Learning Environments." *Educational Technology* 41, no. 4 (July-August 2001): 36-42.

Activity theory, a cross-disciplinary framework for studying different forms of human practices, is used to compare computer-based training (CBT) with e-learning. Concludes that an e-learning environment based on the principles of activity theory provides a contextual-community perspective lacking in traditional CBT design.

Shackelford, B. "A SCORM Odyssey." *T+D* 56, no. 8 (August 2002): 30-35.

SCORM—sharable content object reference mode—promises to bring together the best of current e-learning standards and provide a common ground for e-learning in the future. The efforts of the University of Wisconsin Learning Innovations to address SCORM are described in this article that also provides background on SCORM.

Tait, A. "Students and Attachment: The Nature of Electronic Relationships." *Adults Learning* 11, no. 10 (June 2000): 20-22.

Raises questions about the nature of human relationships and education in online learning. Discusses issues related to image versus reality, trust, tone, subtlety, spontaneity, and authenticity in computer-mediated communication.

Weaver, P. "Preventing E-Learning Failure." *T+D* 56, no. 8 (August 2002): 45-50.

In the rush to implement e-learning, organizations are making missteps due to unfamiliarity with requirements and uses of e-learning and miscalculation of required resources. Ten common pitfalls associated with e-learning and how to avoid them are enumerated.

Williams, S. W. "Instructional Design Factors and the Effectiveness of Web-based Training/Instruction." In *Cyril O. Houle Scholars Global Research Perspectives*, vol. 2, May 2002. http://www.coe.uga.edu/hsp/monographs2/williams.pdf

The omission of the consideration of adult learning elements when designing web-based instruction can impede the successful delivery of instruction via the Internet. Research was conducted that resulted in the following outcomes: (1) adult learning principles that are critical for effective web-based instructional design, (2) factors that affect web-based instructional design process, and (3) barriers that impede successful delivery of web-based instruction.

Zenger, J., and Uehlein, C. "Why Blended Will Win." *T+D* 55, no. 8 (August 2001): 54-60.

E-learning and traditional, face-to-face training methods can be integrated to create something greater than the sum of the parts. A blended solution has the following characteristics: integrated instructional design, consistent framework and nomenclature, each method delivering its best, flexibility, and variety.

Websites

e-Learning Centre: http://www.e-learningcentre.co.uk/eclipse/default.htm
e-Learning Glossary: http://www.learningcircuits.org/glossary.html
e-Learning Magazine: http://www.elearningmag.com/elearning/
e-learning Research Center: http://www.cio.com/research/elearning/

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